

17-inch Color LCD Flat Panel Display Monitor



Security Systems

EN | Instruction Manual
MON170CL

BOSCH

Important Safeguards

1. **Read, Follow, and Retain Instructions** - All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.
2. **Heed Warnings** - Adhere to all warnings on the unit and in the operating instructions.
3. **Attachments** - Attachments not recommended by the product manufacturer should not be used, as they may cause hazards.
4. **Installation Cautions** - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only manufacturer-recommended accessories, or those sold with the product. Mount the unit per the manufacturer's instructions. Appliance and cart combination should be moved with care. Quick stops, excessive force, or uneven surfaces may cause the appliance and cart combination to overturn.
5. **Cleaning** - Unplug the unit from the outlet before cleaning. Follow any instructions provided with the unit. Generally, using a damp cloth for cleaning is sufficient. Do not use liquid cleaners or aerosol cleaners.
6. **Servicing** - Do not attempt to service this unit yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
7. **Damage Requiring Service** - Unplug the unit from the main AC power source and refer servicing to qualified service personnel under the following conditions:
 - When the power supply cord or plug is damaged.
 - If liquid has been spilled or an object has fallen into the unit.
 - If the unit has been exposed to water and/or inclement weather (rain, snow, etc.).
 - If the unit does not operate normally, when following the operating instructions. Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may result in damage, and require extensive work by a qualified technician to restore the unit to normal operation.
 - If the unit has been dropped or the cabinet damaged.
 - If the unit exhibits a distinct change in performance, this indicates that service is needed.
8. **Replacement Parts** - When replacement parts are required, the service technician should use replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electrical shock or other hazards.
9. **Safety Check** - Upon completion of servicing or repairs to the unit, ask the service technician to perform safety checks to ensure proper operating condition.
10. **Power Sources** - Operate the unit only from the type of power source indicated on the label. If unsure of the type of power supply to use, contact your dealer or local power company.
 - For units intended to operate from battery power, refer to the operating instructions.
 - For units intended to operate **with External Power Supplies**, use only the recommended approved power supplies.
 - For units intended to operate with a limited power source, this power source must comply with EN60950. Substitutions may damage the unit or cause fire or shock.
 - For units intended to operate at 24VAC, normal input voltage is **24VAC**. Voltage applied to the unit's power input should not exceed 30VAC. User-supplied wiring, from the 24VAC supply to unit, must be in compliance with electrical codes (Class 2 power levels). Do not ground the 24VAC supply at the terminals or at the unit's power supply terminals.
11. **Coax Grounding** - If an outside cable system is connected to the unit, ensure that the cable system is grounded. U.S.A. models only - Section 810 of the National Electrical Code, ANSI/NFPA No.70, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
12. **Grounding** - This unit may be equipped with a 3-wire grounding plug (a plug with a third pin, for grounding). This safety feature allows the plug to fit into a grounding power outlet only. If unable to insert the plug into the outlet, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the grounding plug.
 - Outdoor equipment should only be connected to the unit's inputs after this unit has had its grounding plug connected to a grounded outlet or its ground terminal properly connected to a ground source.
 - The unit's input connectors must be disconnected from outdoor equipment before disconnecting the grounding plug or grounding terminal.
 - Proper safety precautions such as grounding should be followed for any outdoor device connected to this unit.
13. **Lightning** - For added protection during a lightning storm, or when this unit is left unattended and unused for long periods of time, unplug the unit from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

For Indoor Product

- 1. Water and Moisture** - Do not use this unit near water - for example, in a wet basement, in an unprotected outdoor installation or in any area classified as a wet location.
- 2. Object and Liquid Entry** - Never push objects of any kind into this unit through openings, as they might touch dangerous voltage points or create short circuits, resulting in a fire or electrical shock. Never spill liquid of any kind on the unit.
- 3. Power Cord and Power Cord Protection** - For units intended to operate with 230VAC, 50Hz, the input and output power cord must comply with the latest versions of IEC Publication 227 or IEC Publication 245.
Power supply cords should be routed so they are not likely to be walked on or pinched. Pay particular attention to location of cords and plugs, convenience receptacles, and the point of exit from the appliance.
- 4. Overloading** - Do not overload outlets and extension cords; this can result in a risk of fire or electrical shock.

For Outdoor Product

Power Lines - An outdoor system should not be located in the vicinity of overhead power lines, electric lights or power circuits, or where it may contact such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching power lines or circuits, as this contact might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.

For Rack-mount Product

- 1. Ventilation** - Do not place this equipment in a built-in installation or rack, unless proper ventilation is provided, or the manufacturer's instructions were followed. The equipment must not exceed its maximum operating temperature requirements.
- 2. Mechanical Loading** - When rack-mounting the equipment, ensure that a hazardous condition is not created by uneven mechanical loading.

Safety Precautions



CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN!



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol indicates the presence of uninsulated "dangerous voltage" within the product's enclosure that can cause an electric shock.



This symbol indicates the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.



Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

Cover Removal



WARNING: Removal of the cover should only be performed by qualified service personnel - not user serviceable. The unit should always be unplugged before removing the cover and remain unplugged while the cover is removed.

FCC & ICES INFORMATION

(U.S.A. and Canadian Models Only)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

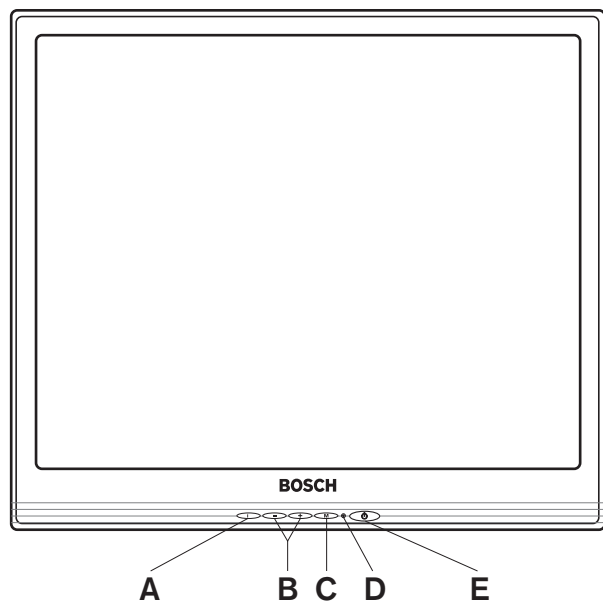
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer, or an experienced radio/TV technician for help.

Intentional or unintentional changes or modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such changes or modifications could void the user's authority to operate the equipment. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: [How to Identify and Resolve Radio-TV Interference Problems](#). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

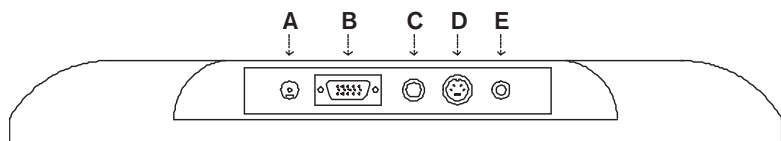
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Key:
 A: " i " (Info) Button
 B: -, + Buttons
 C: " M " (Menu) Button
 D: Power LED Identification
 E: Power Button

Figure 1: Front Panel



A: DC input
 B: VGA input
 C: Video (CVBS) input
 D: Y/C input
 E: Audio input

Figure 2: I/O Connectors

1.0 UNPACKING

This equipment should be unpacked and handled with care. If an item appears to have been damaged in shipment, notify the shipper.

Verify that all parts shown in the *Parts List* have been included. If any items are missing, notify your Bosch Security Systems Sales or Customer Service Representative.

The original packing carton is the safest container in which to transport the unit. Save it for possible future use.

1.1 Parts List

| Qty | Item |
|-----|--|
| 1 | MON170CL Color LCD Flat Panel Monitor and Stand |
| 2 | Two (2) Power Cords: 3-wire with grounded plug, 1.8m (6ft) long; One (1) with European Continental plug type and one (1) with U.S. plug type |
| 1 | Power supply |
| 1 | One (1) Analog VGA cable, 1.5 m (5 ft) |
| 1 | One (1) Audio Cable, 1.6 m (5.3 ft) |
| 1 | RCA Jack to BNC converter |
| 1 | Installation & Operation Instructions (this manual) |

2.0 SERVICE

If the unit needs servicing, contact the nearest Bosch Security Systems Service Center for authorization to return and shipping instructions.

Service Centers

USA

Phone: 800-366-2283 or 717-735-6638

Fax: 800-366-1329 or 717-735-6639

CCTV Spare Parts

Phone: 800-894-5215 or 408-956-3853 or 3854

Fax: 408-957-3198

E-mail: BoschCCTVparts@ca.slr.com

Canada

Phone: 514-738-2434

Europe, Middle East & Asia Pacific Region

Phone: 32-1-440-0711

For additional information, see www.boschsecurity.com.

3.0 GENERAL FEATURES

The MON170CL is a 17-inch TFT monitor with a 1280 x 1024 XGA resolution which has been designed to display both PC and Video images. It complies with the power management regulations of VESA DPMS, it is supported by Plug & Play, and complies with DDC1/2B.

3.1 Features

- 100 to 240 VAC Auto-detect
- NTSC/PAL Auto-detect
- High Resolution (1280 X 1024 XGA)
- PC Input
- Video Input
- Audio Input
- Y/C Input
- OSD with Multiple Languages

4.0 INTRODUCTION

4.1 Monitors

The MON170CL 17-inch (43 cm) Color Liquid Crystal Display Monitor displays PAL or NTSC standard color pictures in CCTV systems. The MON170CL monitor includes one (1) Composite Video input RCA connector (one RCA to BNC connector is included), one (1) Audio input mini phone jack, and one (1) Y/C (S-video) input using 4-pin mini-DIN. In addition, this model includes an Analog VGA input using 15-pin Dsub to accommodate the increasing use of Personal Computers and digital video devices in security applications. Monitor control functions are accessed via the front panel push buttons and the multi-language On-Screen Display (OSD).

5.0 INSTALLATION

5.1 Power

| Model No. | Rated Voltage | Voltage Range | Power at Rated Voltage | Sync Format |
|-----------|---------------|---------------|------------------------|-------------|
| MON170CL | 120/230 VAC | 100 to 240 V | 30 W | NTSC/PAL |

5.2 Desktop Installation

The MON170CL monitor is delivered with a 3-pole US style power cord and a 3-pole Euro style power cord. Use the US style power cord where 120 VAC, 60 Hz power is available, and the Euro style power cord where 230 VAC, 50 Hz power is available.

The monitor end of the power cord plugs into the power connector at the power adapter. The monitor automatically adjust to either power input voltage.



Photo C

5.2.1 Power Supply Installation

1. Turning the locking clip a quarter turn to unlock the base, as shown in photo A.
2. Lose the clips on the bottom of the base and fold the base unit up, as shown in photo B.
3. Connect the bayonet connector from the power supply to the power input connector on the rear side of the LCD panel, as shown in photo C.

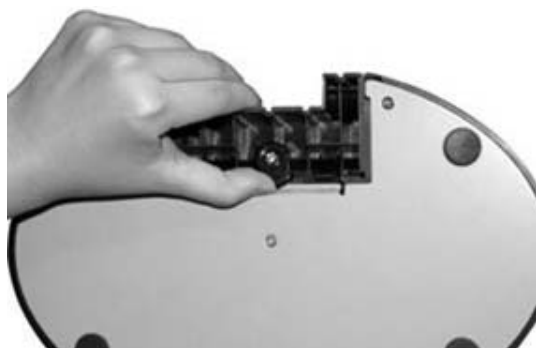


Photo A



Photo B

5.3 Connecting the Composite Video (CVBS) Input Signal to the Monitor

There is one (1) RCA connector located on the rear of the monitor for composite video input (Figure 2); also included is one (1) RCA Jack to BNC converter (included with the MON170CL) to connect BNC cable line, as shown in photo D and E.



Photo D



Photo E

5.4 Connecting the Y/C (S-video) Signal to the Monitor

There is one (1) mini-DIN type connector for the S-video (Y/C) input (see Figure 2 and Figure 3 below).

NOTE: Both Y and C inputs are terminated with 75 Ω

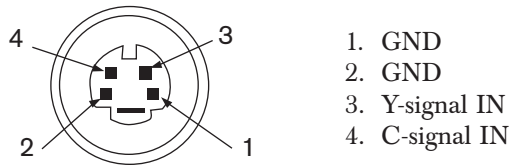


Figure 3: Y/C Connection Pinout

5.5 Connecting Audio to the Monitor

There is one (1) set of mini phone jack for the audio connector (Figure 2 and Photo F).



Photo F

5.6 Connecting the Analog VGA Signal to the Monitor

There is one (1) 15-pin D-sub connector (Figure 4) for one analog VGA input. Refer to Figure 2, item B.

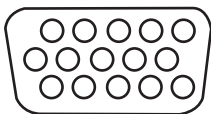


Figure 4: Analog VGA Connector

5.7 VESA Standard Mounting Hole (For Wall-mount Use)

1. Carefully press the cover and remove it from the stand. (as shown in photo G)
2. Unscrew the three holdings screws hidden under the high cover before separating the stand from the panel. (as shown in photo H)
3. The square mounting hole patterns are VESA standard on 100 mm (3.9" centers, as shown in photo I). Mount the unit to mounting device using the four mounting holes on the rear panel.



Photo G



Photo H



Photo I

5.8 Ventilation

To prevent overheating, ensure that the ventilation openings on the rear of the monitor are not covered.

6.0 OPERATION

6.1 Front Panel Controls (Figure 1)

- (i) Input**
- Press this button to display the input signal which is selected on the screen
 - Press the button to exit OSD menu.
- +/-**
- Press the '+' or '-' button to move the cursor to the targeted parameter in the OSD main menu.
 - Press the '+' or '-' button to adjust the value of the selected parameter in the OSD sub-menu.
- (M) MENU**
- Press this button to open the main OSD menu. Use this button to confirm a value for a parameter in the OSD Menu.
- Power LED Identification**
- Power on (Green)
 - Stand by (Amber)
 - Sleeping mode (Flashing Amber)
- POWER**
- Press this button to turn on or turn off the monitor.

6.2 On -Screen Display (OSD) Menu

6.2.1 CVBS/ S-VIDEO/ VGA Mode



Luminance



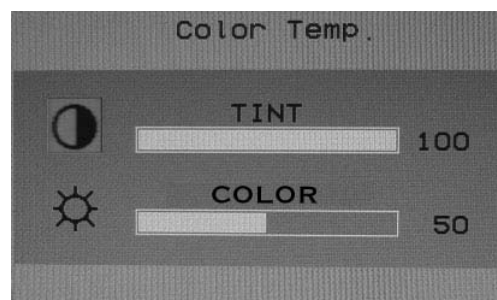
Contrast: Adjusts the contrast value.
(0-100)



Brightness: Adjusts the brightness value.
(0-100)



Color Temp. (For CVBS/S-VIDEO only)



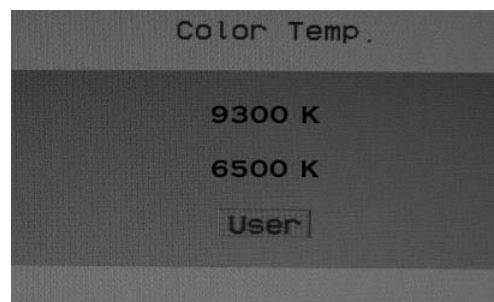
Tint: Adjusts the tint value (NTSC only).
(0-100)



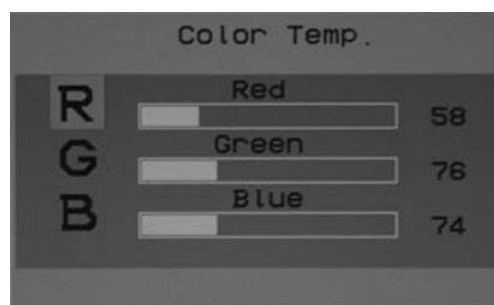
Color: Adjusts the color value. (0-100)



Color Temp. (For VGA only)



Selecting "User" will display the following menu:



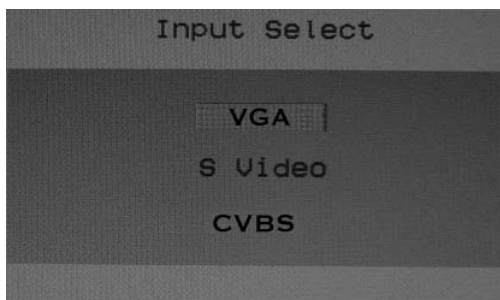
R (Red): Adjusts the red color contrast.

G (Green): Adjusts the green color contrast.

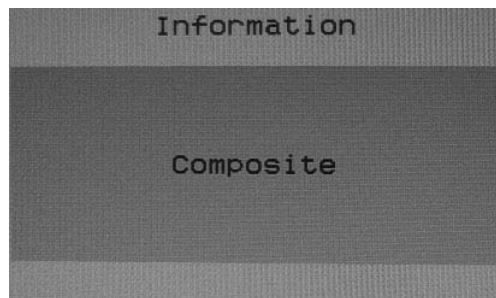
B (Blue): Adjusts the blue color contrast.



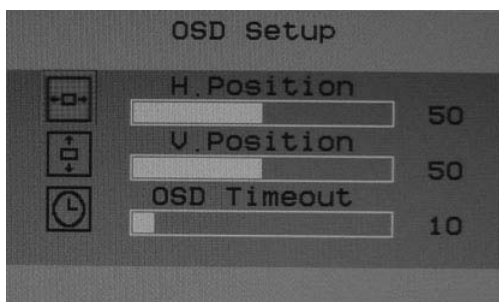
Input Select



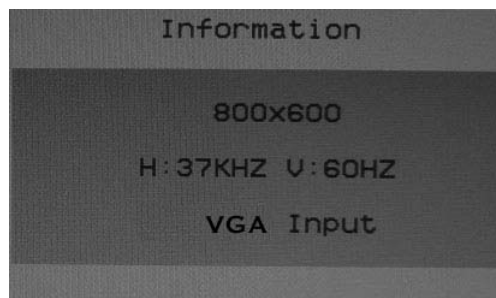
Information (For CVBS/S-VIDEO only)



OSD Setup



Information (For VGA only)



H. Position: Adjusts the OSD horizontal position. (0-100)



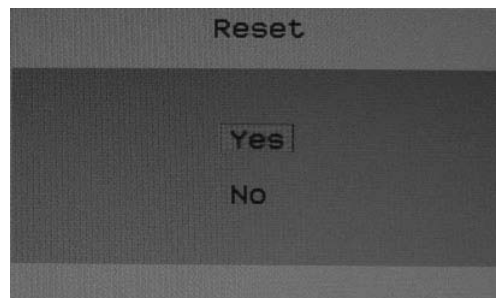
V. Position: Adjusts the OSD vertical position. (0-100)



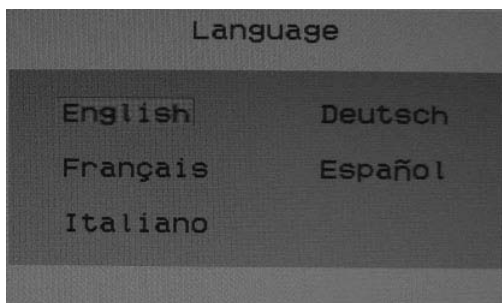
OSD Timeout: Adjusts the OSD window display time. (0-100)



Reset



Language



Reset: Returns the monitor setting to the factory default.



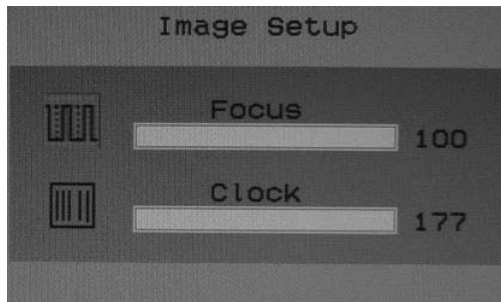
Exit


Exits the OSD menu.

Language: Select the language to be used in OSD.
 [English / Français / Italiano / Deutsch / Español].

6.2.2 VGA Mode Only

Image Setup



 Focus: Adjusts the focus value. (0-100)


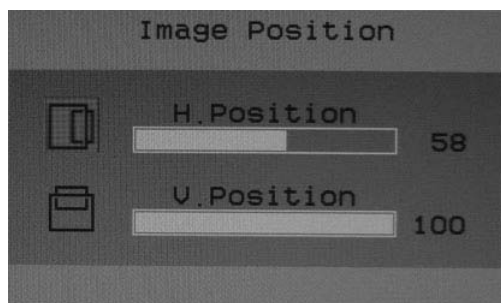


 Clock: Adjusts the clock frequency.
(0-177)

Image Position



 H. Position: Adjusts the horizontal
position. (0-100)

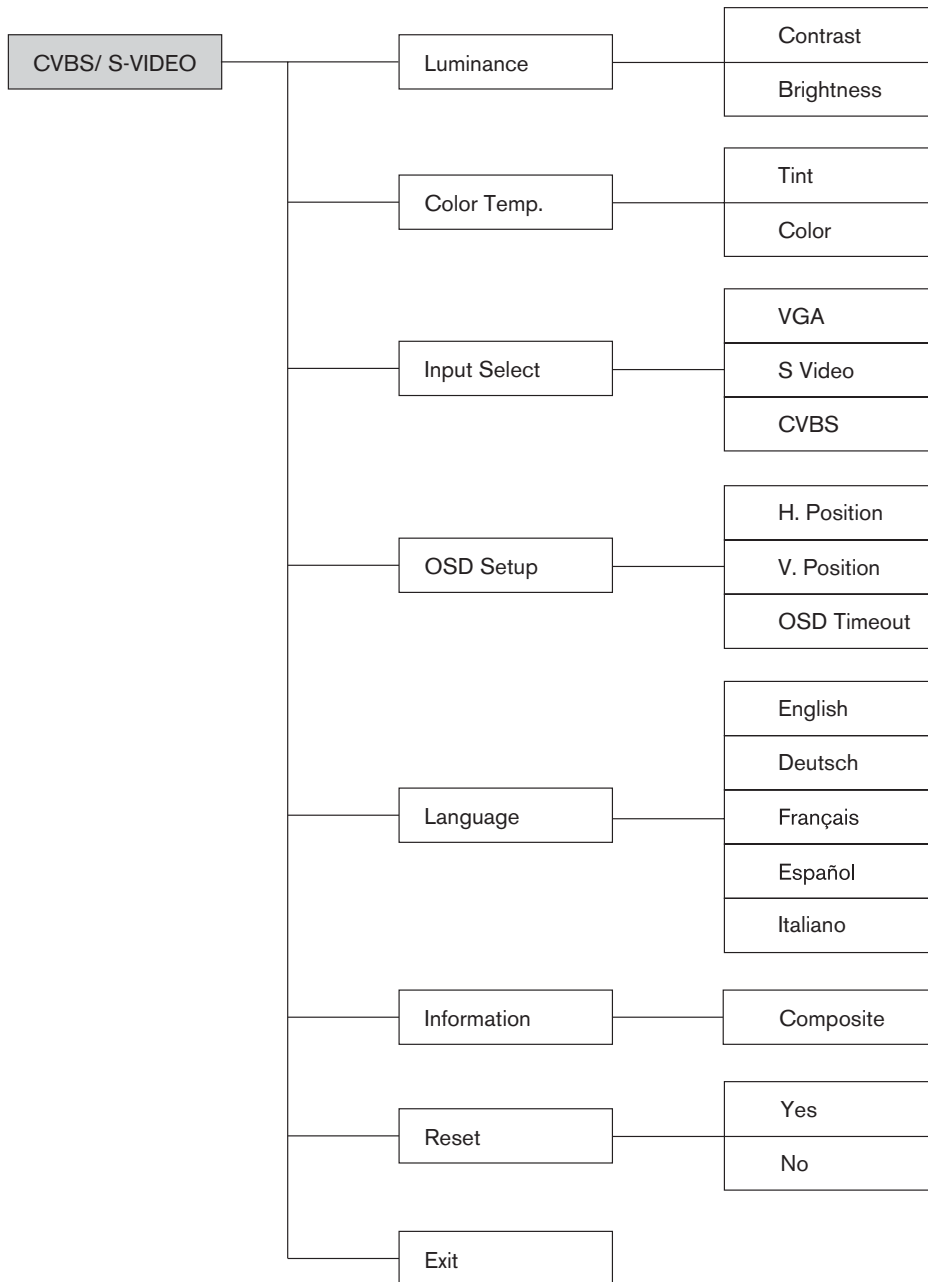
 V. Position: Adjusts the vertical position.
(0-100)

6.3 Notation

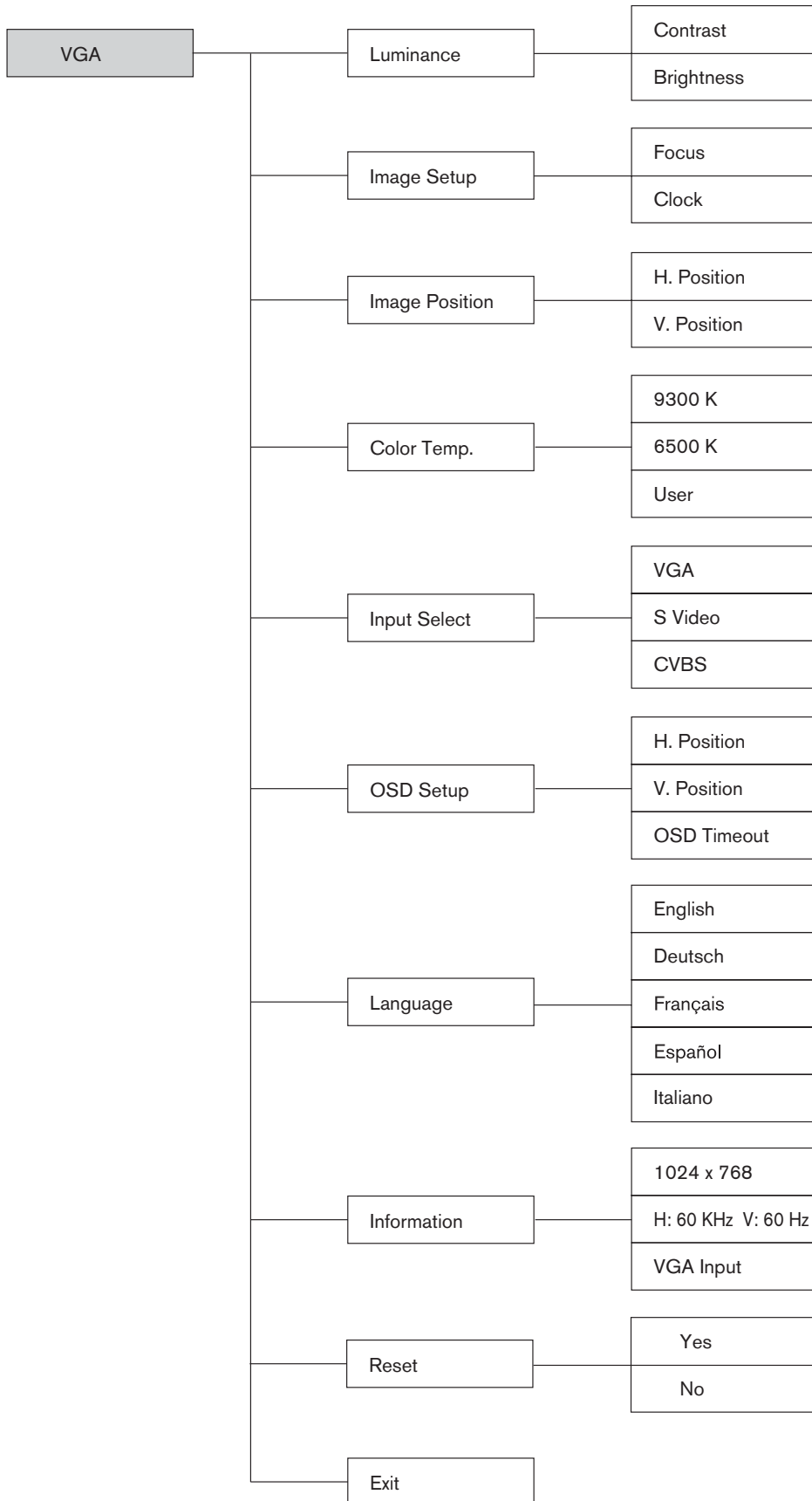
The message "Input Not supported " will be displayed in the VGA mode if the PC is operating with either a resolution or timing mode that is not supported by the MON170CL.

7.0 ON-SCREEN DISPLAY MENU CONFIGURATION

7.1 CVBS/ S-VIDEO Mode



7.2 VGA Mode



8.0 Appendix A - Technical Specification

| Electrical | |
|-------------------------------------|---|
| Rated Voltage | 120/230 VAC, 50/60 Hz |
| Voltage Range | 100 to 240 |
| Power at Rated Voltage | 30 W |
| Sync Format | PAL/NTSC |
| LCD Panel | TFT LCD |
| Screen Size | 338.0 (H) x 270.3 (V) mm (13.3 x 10.6 in.) |
| Viewable Picture Area | 43 cm (17 in.) measured diagonally |
| Pixel Pitch | 0.264 (H) x 0.264 (V) mm |
| Resolution | 1280 (H) x 1024 (V) pixels; |
| | 500 TV Lines Typical |
| Aspect Ratio | 4:3 (Composite Video); 5:4 (VGA) |
| Display Colors | 8 bits Interface; 16 million colors |
| Response Time | 16 ms |
| Backlight | Four (4) cold Cathode Fluorescent Tubes, rated life 50,000 hours, at 50% brightness |
| Optical Characteristics | |
| Luminance | 300 cd/m ² |
| Contrast Ratio | 450:1 |
| Viewing Angle | 140° horizontal, 130° vertical |
| Video Input | |
| Composite Video (CVBS) | 1.0 Vp-p (0.5-1.5 Vrms) |
| Y/C (S-video) | 0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal), 75 ohm termination |
| VGA Input | |
| Analog RGB | 0.7 Vp-p (0.5-1 Vrms) |
| VGA Timing Modes | |
| | Fh: 30 K - 80 KHz |
| | Fv: 60 - 75 Hz |
| | 640 x 480 60/72/75 Hz |
| | 800 x 600 60/72/75 Hz |
| | 1024 x 768 60/70/75 Hz |
| | 1280 x 1024 60/75 Hz |
| Audio Input | |
| | 1.0 V line level |
| Audio Output | |
| | Speaker: Two (2), 1 W |
| Controls | |
| Front Panel | |
| | Push-buttons |
| I (Input) | Selects CVBS, S-Video, VGA Input |
| M (Menu) | Selects On-Screen Display (OSD) |
| - | Adjustment Decrease |
| + | Adjustment Increase |
| Power | |
| | On/Off |
| On-Screen Display | |
| Video | Contrast, Brightness, Tint (NTSC only), Saturation |
| Misc | Volume, Timer, Reset, Exit |
| OSD Menu | Language, OSD H Position, OSD V Position, Timer |
| Indicators | |
| LED | Power On (green) |
| On-Screen | "Attention No Signal" |
| Connectors | |
| Composite Video In | One (1) RCA jack, BNC adapter included |
| Audio In | One (1) 1/8-in. 3-cond. mini phone jack |
| Y/C (S-video) | One (1) Mini-DIN, 4-pin (in only) |
| VGA | One (1) 15-pin D-sub |
| Power Input | 5.5 mm DC input jack |
| Power Adapter (Included) | |
| | Input: 100-240 VAC, 50/60 Hz |
| | Output: 12 VDC, 4.2 A |
| Mechanical | |
| Cabinet | |
| | Material: ABS94V0 plastic |
| | Finish: Charcoal |
| Dimensions | |
| LCD Panel with Base | 372 (W) x 170 (D) x 386 (H) mm (14.6 x 6.7 x 15.2 in.) |
| LCD Panel Only | 372 (W) x 48 (D) x 320 (H) mm (14.6 x 1.9 x 12.6 in.) |
| Weight | |
| | LCD Panel with Base: 3.8 kg (8.4 lb) |
| | LCD Panel Only: 2.9 kg (6.4 lb) |
| Environmental | |
| Temperature | |
| | Operating: 0°C to +40°C (+32°F to +104°F) |
| | Storage: -20°C to +60°C (-4°F to +140°F) |
| Humidity | |
| | 95%, noncondensing at +40°C (+104°F) |
| Product Regulatory Compliance | |
| Electromagnetic Compatibility (EMC) | |
| | Complies with FCC Part 15, ICES-003, and CE regulations |
| Product Safety | |
| | Complies with CE regulations, UL, CSA, EN, and IEC Standards |

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